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10/040,453

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Masanori Miyoshi

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09/26/2006

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ALEXANDRIA, VA 22314

EXAMINER

DESHPANDE, KALYAN K

ART UNIT

PAPER NUMBER

3623

DATE MAILED: 09/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |  |                                       |  |
|------------------------------|--|---------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/040,453   | <b>Applicant(s)</b><br>MIYOSHI ET AL. |  |
|                              | <b>Examiner</b><br>Kalyan K. Deshpande | <b>Art Unit</b><br>3623               |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 05 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 15 is/are pending in the application.
- 4a) Of the above claim(s) 7-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/8/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Introduction***

1. The following is a non-final office action in response to the communications received on July 5, 2006. Claims 12-14 were previously cancelled. Claims 1-11 and 15 are subject to restriction. Applicant has elected claims 1-6 and 15. Claims 1-6 and 15 are now pending in this application.

### ***Information Disclosure Statement***

2. The examiner has reviewed the patents and articles supplied in the Information Disclosure Statements (IDS) provided on March 8, 2004.

### ***Election/Restrictions***

3. Applicant's election without traverse of claims 1-6 and 15 in the reply filed on July 5, 2006 is acknowledged.

### ***Claim Objections***

4. Claim 15 is objected to because of the following informalities: Claim 15 is a multiple dependant claim presented in the proper alternative form. However, claim 15 is dependant on any of claims 1 to claims 11, but claims 7-11 have been cancelled. For the purpose of examination, Examiner has interpreted that this claim was intended to be dependant on any of claims 1-6, however, appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-6 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dabbieri (U.S. Patent No. 6965876) in view of Grajo (Grajo, Eric; "Strategic Layout Planning and Simulation for Lean Manufacturing: A LayOPT Tutorial", *Proceedings of the 1995 Winter Simulation Conference*, 1995).

As per claim 1, Dabbieri teaches:

A facility management system comprising

a flow line-measuring means for measuring a flow line of a moving body by detecting said moving body in a facility to be monitored (see column 3 lines 17-35 and figures 1 and 2; where the flow of equipment is monitored.); and

a management information generating means for producing management information for management from said flow line information (see column 3 lines 12-35 and figures 1 and 2; where the monitoring of equipment provides management with information to scrutinize and analyze.), wherein

said management information generating means comprises a moving body identifying means for identifying said moving body (see column 3 lines 17-35; where the object moving is identified and tracked.); and

a movement cost-calculating means for calculating a cost expended on movement of said moving body from said flow line information (see column 3 lines 1-5 and figure 3; where data is analyzed to determine the productivity of the moving body. Determining the productivity is the same as determining an expended cost.), and

Dabbiere fails to explicitly teach "said movement cost-calculating means calculates said movement cost based on a time unit price specific to said identified moving body and a time period required for said movement as said movement cost". Grajo teaches "said movement cost-calculating means calculates said movement cost based on a time unit price specific to said identified moving body and a time period required for said movement as said movement cost" (see pp. 510-511; where the LayOPT software package tracks the flow. The flow is defined as the movement of parts, information, or people. The flow is measured with weight factors that are represented by unit costs.). The advantage of this steps is that it clearly enables a user to design or redesign an optimal floor layout for a facility. It would have been obvious, at the time of the invention, to one of ordinary skill in the art to combine the feature of "said movement cost-calculating means calculates said movement cost based on a time unit price specific to said identified moving body and a time period required for said movement as said movement cost" taught by Grajo to Dabbiere in order to clearly design or redesign an optimal floor layout for a facility, which is a goal of Grajo (see p. 510).

As per claim 2, Dabbiere fails to explicitly teach "said movement cost-calculating means calculates a total sum of values as said movement cost, each of said values being calculated by multiplying a time unit price specific to a moving means for moving said identified moving body by a time period required for said movement". Grajo teaches "wherein said movement cost-calculating means calculates a total sum of values as said movement cost, each of said values being calculated by multiplying a

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time unit price specific to a moving means for moving said identified moving body by a time period required for said movement” (see pp. 510-513; where the software sums the flows and thereby determines the weighted sum of the flows. These values are determined using movement costs parameters.). The advantage of this step is that it enables a user to design or redesign an optimal floor layout for a facility while considering teach flow constraint. It would have been obvious, at the time of the invention, to one of ordinary skill in the art to combine the feature of “said movement cost-calculating means calculates a total sum of values as said movement cost, each of said values being calculated by multiplying a time unit price specific to a moving means for moving said identified moving body by a time period required for said movement” taught by Grajo to Dabbiere in order to design or redesign an optimal floor layout for a facility while considering teach flow constraint, which is a goal of Grajo (see p. 510).

As per claim 3, Dabbiere teaches:

A facility management system comprising

a flow line-measuring means for measuring a flow line of a moving body by detecting said moving body in a facility to be monitored (see column 3 lines 17-35 and figures 1 and 2; where the flow of equipment is monitored.); and

a management information generating means for producing management information for management from said flow line information (see column 3 lines 12-35 and figures 1 and 2; where the monitoring of equipment provides management with information to scrutinize and analyze.), wherein

said management information generating means comprises a moving means identifying means for identifying a moving means for moving said moving body; and a movement cost-calculating means for calculating a cost expended on movement of said moving body from said flow line information (see column 3 lines 17-35; where the object moving is identified and tracked.)

Claim 3 further recites the limitation "said movement cost-calculating means calculates a total sum of values as said movement cost, each of said values being calculated by multiplying a distance unit price specific to said identified moving means by a moving distance", which has been addressed by the rejection of claim 1; therefore the same rejection applies to this claim..

As per claim 4, Dabbieri fails to explicitly teach "said management information generating means comprises a movement cost-evaluating means for judging whether or not a cost calculated by said movement cost-calculating means is within a permissible range". Grajo teaches "said management information generating means comprises a movement cost-evaluating means for judging whether or not a cost calculated by said movement cost-calculating means is within a permissible range" (see pp. 513-514; where the optimization looks to discover a layout with between 50-80% increase in efficiency. The 50-80% is an acceptable range.). The advantage of this step is that it enables one of ordinary skill in the art to select an optimization layout plan that is within an acceptable range of efficiency. It would have been obvious, at the time of the invention, to one of ordinary skill in the art to combine the feature of "said management information generating means comprises a movement cost-evaluating means for

judging whether or not a cost calculated by said movement cost-calculating means is within a permissible range" taught by Grajo to Dabbieri in order to select an optimization plan that is acceptable, which is a goal of Grajo (see pp. 513-514).

As per claim 5, Dabbieri fails to explicitly teach "said management information generating means comprises a facility layout-optimizing means for optimizing a layout of said facility so as to minimize said movement cost". Grajo teaches "said management information generating means comprises a facility layout-optimizing means for optimizing a layout of said facility so as to minimize said movement cost" (see p. 513; where the gather information and values is used to minimize movement costs.). The advantage of this steps is that it clearly enables a user to design or redesign an optimal floor layout for a facility. It would have been obvious, at the time of the invention, to one of ordinary skill in the art to combine the feature of "said management information generating means comprises a facility layout-optimizing means for optimizing a layout of said facility so as to minimize said movement cost" taught by Grajo to Dabbieri in order to clearly design or redesign an optimal floor layout for a facility, which is a goal of Grajo (see p. 510).

As per claim 6, Dabbieri teaches:

A facility management system according to any one of claim 1 to claim 5, wherein said flow line-measuring means installed in said facility to be monitored and said management information generating means installed in a monitoring center are connected to each other through a communication network (see column 3 lines 40-



50 and figure 1; where the flow measuring object is installed in the facility and is connected to the system via a radio communication frequency network.).

As per claim 15, Dabbieri teaches:

A memory medium, which stores a program realizing any one of claim 1 to claim 11 on a computer (see figure 1; where the program is stored on a computer.).

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following are pertinent to the current invention, though not relied upon:

Hull et al. (U.S. Patent No. 6860422) teaches a workflow system and method include tracking the physical movement of documents.

Nelson et al. (U.S. Patent No. 6333690) teaches a method of electronically tracking and locating a very large number of objects such as, but not limited to, personal case files in health care, law, or human services systems is described.

Schrott et al. (U.S. Patent No. 6335685) teaches a computerized base station system that communicates with radio frequency tags attached to one or more objects.

Flores et al. (U.S. Patent No. 5734837) teaches a method and system which provides consultants, business process analysts, and application developers with a unified tool with which to conduct business process analysis, design, documentation and to generate business process definitions and workflow-enabled applications.

Sellie et al. (U.S. Patent No. 5557553) teaches a computer assisted time study system used for establishing standard time values for workers at a company and

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comprises a hand holding data accumulating device including a hand holdable housing, electronic circuitry including a microcomputer in the hand holdable housing and including an on-board memory and a clipboard mounted on top of the housing and having clip for releasable securing a time study sheet of form on the clipboard.

Scribner et al. (U.S. Patent No. 4688026) teaches tags capable of wirelessly transmitting unique codes when energized by radio frequency (RF) energy are used to identify a variety of different locations and objects.

Norman et al. (Norman, Bryan A.; Smith, Alice E.; "Random Keys Genetic Algorithm with Adaptive Penalty Function for Optimization of Constrained Facility Layout Problems", *IEEE*, 1997) teaches the use of genetic algorithms for the optimization of a facility layout.

Benjaafar et al. (Benjaafar, Saifallah; Sheikhzadeh, Medhi; "Design of Flexible Plant Layouts", *IIE Transactions*, 2000) teaches the design of a plant in stochastic environments.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kalyan K. Deshpande whose telephone number is (571) 272-5880. The examiner can normally be reached on M-F 8am-5pm.

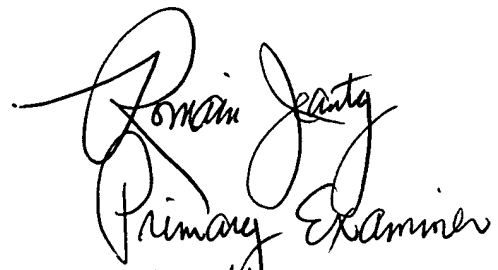
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



kkd



Primary Examiner  
Art Unit 3623